

**AMENDMENTS IN THE SPECIFICATION**

Please amend the specification–

**[001]** The present invention generally relates to propulsion apparatus, and particularly to propulsion devices using unbalanced centrifugal force to propel a vehicle in a unidirectional linear motion.

**[005]** Accordingly, that is not complex and efficiently generates unidirectional linear force from centrifugal or rotational forces and that doesn't transfer masses from one rotating member to the other. As such, the device may be used to propel wheeled vehicles, ~~watercraft, aircraft or spacecraft~~.

**[006]** The present invention provides a device for the conversion of centrifugal force to linear force and motion to propel wheeled vehicles, watercraft, aircraft or spacecraft. It is intended to provide a simple, gasless, lightweight method of propulsion.

**[007]** According to one embodiment, a device for conversion of centrifugal force to linear force and motion is disclosed, the device comprising: a first gear rotatably fixed to a first arm and having a first connecting bar rotatably attached to and abutting the inner side of the first gear and a second connecting bar rotatably attached to and abutting the outer side of the first gear; a second gear in opposite rotational communication with the first gear and weighted along an outer edge and is rotatably attached to and abutting the first connecting bar and the second connecting bar; and a first drive means for translating centrifugal motion of the first gear to unidirectional linear motion.

**[008]** According to another embodiment, a device for conversion of centrifugal force to linear force and motion is disclosed, the device comprising: a first gear rotatably fixed to a first arm and having a first connecting bar rotatably attached to and abutting the inner side of the first gear; a second gear in opposite rotational communication with the first gear and weighted along an outer edge and is rotatably attached to and abutting the first connecting bar; and a first drive means for translating centrifugal motion of the first gear to unidirectional linear motion.

**[009]** According to yet another embodiment, a device for conversion of centrifugal force to linear force and motion is disclosed, the device comprising: a first gear rotatably fixed to a first arm and having a first connecting bar rotatably attached to and abutting the inner side of the first gear and a second connecting bar rotatably attached to and abutting the outer side of the first gear; a second gear in opposite rotational communication with the first gear and weighted along an outer edge and is rotatably attached to and abutting the first connecting bar and the second connecting bar; a third gear in opposite rotational communication with the first gear and weighted along the outer edge which rotates about the first gear and being rotatably attached to the first connecting bar and the second connecting bar one hundred and eighty (180) degrees from the second gear; a fourth gear in opposite rotational communication with the first gear, being ninety (90) degrees from the second gear and weighted along the outer edge, and being rotatably attached to the third connecting bar; a fifth gear in opposite rotational communication with the first gear, being 270 degrees from the second gear and weighted along the outer edge, and being rotatably attached to the third connecting bar; a third connecting bar rotatably attached to the first gear, the fourth gear and the fifth gear; and a first drive means for translating centrifugal motion of the first gear to unidirectional linear motion.

**[021]** Figures 3A and 3B depict a device having a first gear 12 rotatably fixed to a first arm 14 and having a first connecting bar 16 rotatably attached to and abutting the inner side 20 of the first gear 12, second gear 24, third gear 44, fourth gear 52 and fifth gear 50. There is also a second connecting bar 22 (See Figure 3B) rotatably attached to and abutting the outer side 18 of the first gear 12, second gear 24 and fifth gear 50. A second gear 24 may be in opposite rotational communication with the first gear 12 and weighted (e.g. by weight 26) along an outer edge 28 and rotatably attached to and abutting the first connecting bar 16 and second connecting bar 22. As shown, there is a third connecting bar 56 rotatably attached to the first gear 12. There is also a fourth gear 52 in opposite rotational communication with the first gear 12 and being ninety (90) degrees from the second gear 24 and weighted 26 along the outer

edge. The fourth gear 52 is rotatably attached to the third connecting bar 56. Fourth connecting bar (not visible) is identical to the third connecting bar 56 on the opposite side. There is also a fifth gear 50 in opposite rotational communication with the first gear 12, being (270) degrees from the second gear 24 and weighted 70 along the outer edge 72, and being rotatably attached to the third connecting bar 56. As shown, there is a first drive means 92 for initiating motion of the second gear 24. As shown, the first drive means 92 causes translating gear 14 to turn, which causes first connecting bar 16 to turn, which causes second gear 24, third gear 44, fourth gear 52 and fifth gear 50 to turn. As discussed previously, the centrifugal force provides a net force vector that causes the wheels 34, 36, 38 and 40 to turn. Many different embodiments are envisioned and the first connecting bar 16 may be further away from the gears as shown or closer and even abutting the gears. As shown there may be a third gear 44 in opposite rotational communication with the first gear 12 and weighted 46 along the outer edge 48 which rotates about the first gear 12 and being rotatably attached to the first connecting bar 16 and the second connecting bar 22 one hundred and eighty (180) degrees from the second gear 24. The weight 46 is shown for the purposes of illustration, but would not be visible as the first connecting bar 16 would block visibility. There may also be a fourth connecting bar 80 (not visible) rotatably attached to the first gear 12 abutting an outer side of the third connecting bar 22. As previously, the first gear 12 may rotates in a clockwise direction and the second gear 24, third gear 44, fourth gear 52 and fifth gear 50 rotate in a counterclockwise direction. In each of the embodiments, there may be a second drive means 31 for translating centrifugal motion of the first gear 12 to unidirectional linear motion. It should be understood that the first drive means 92 and second drive means 31 may be separate or considered one drive means.

**[024]** A propulsion apparatus using unbalanced centrifugal force to propel a vehicle in a unidirectional linear motion. According to one embodiment, a device for conversion of centrifugal force to linear force and motion is disclosed, comprising: a first gear rotatably fixed to a first arm and having a first connecting